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10/598,967	07/11/2007	Kazumi Nakayoshi	DC10031PCT (71,051-070)	2691
27305 7590 12/23/2010 HOWARD & HOWARD ATTORNEYS PLLC 450 West Fourth Street Royal Oak, MI 48067			EXAMINER LAM, CATHY FONG FONG	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/598,967  
Filing Date: July 11, 2007  
Appellant(s): NAKAYOSHI ET AL.

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David M. LaPrairie  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on Nov. 10, 2010 appealing from the Office action mailed May 10, 2010.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1-5, 7 and 9-13

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

5,116,472	WOLTER ET AL	05-1992
4,612,409	HAMAKAWA ET AL	09-1986

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. Claims 1, 3-5, 7, 9-12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolter et al (US 5116472).

Wolter teaches a process of making a substrate for printed circuit boards. The substrate is comprised of a metal layer and an electrical insulating material (col 1 L 6-10). A metallic conductor track is then printed onto the insulating material surface (col 1 L 14-15).

The metal layer which can be an aluminum layer, is coated with a silicon compound A (col 2 L 33-34 & 37-40). The silicon compound A is a commercially available compound which is mainly a crosslinkable organic silane compound (col 3 L 36-65 & col 4 L 1-15). The silicon compound A is resin compound that ranges from

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*colorless* to bright yellow. In Examples 1 and 2, the silicon compound A insulating material is a *colorless layer* (col 11 L 7-9 and L 31-32; col 12 L 15).

The prior art teaches a silicon compound which can be crosslinked and formed into a layer. The prior art also teaches the method of making the crosslinkable silicon compound, is condensation or UV radiation (col 5 L 53-60 & col 6 L 48-53).

With the same materials and same method of making, it would inherently possess the same properties, in this case the light transmission percentage and the dielectric constant.

### ***Claim Rejections - 35 USC § 103***

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolter et al (US 5116472) in view of Hamakawa et al (US 4612409).

Wolter discloses a silicon compound coated aluminum foil for used as a printed wiring board substrate. A metallic conductor trace track is printed onto the silicon compound. The crosslinked silicone compound is a colorless layer. Wolter however is silent about the thickness of the crosslinkable polysilane compound

Hamakawa teaches a flexible photovoltaic device comprised of a substrate (1) and an electrode (2) (Fig. 1).

The electrode (2) is formed onto the surface of the substrate (1). The substrate is comprised of a metal layer (1a) and a polymeric layer (1b), the metallic layer (1a) can be an aluminum foil and the polymeric layer (1b) can be a silicone (col 3 L 6-7 & L 19-

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24). The polymer layer (1b) (or silicone) has a thickness of from 1-20  $\mu\text{m}$  (col 3 L 26-28).

In view of the prior art teachings, one skill in the art would choose an insulating silicone material with a desired thickness because it is a matter of design scheme.

### **(10) Response to Arguments**

Appellant contends that the Examiner relied on inherency in asserting that the silicones of Wolter et al (USP 5,116,472) have a light transmission of not less than 80%, as expressly claimed in the present application. Appellant further argues that the examiner failed to provide any reasoning whatsoever to support a position that the instantly claimed transparency and light transmission are necessarily present in the '472 patent.

Appellant argues that the polymers taught by Wolter undergo a condensation reaction and that the art recognizes that silicones have vastly different physical properties. It is noted that the instant specification states in paragraph 12, "A cross-linkable silicone suitable for the formation of the insulation layer may be represented by silicones cross-likable due to an addition reaction, condensation reaction...". While Wolter teaches condensation reaction is used for cross-linking, it appears that applicant also may utilize this method.

While Wolter may recognize that there is a range of "color" that may be obtained (i.e. colorless to bright yellow), Wolter clearly teaches in Example 1 that the coating obtained is "colorless". Appellant argues that "colorless" is akin to "white". No clear

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support for this argument has been found in the art. Wolter refers several times throughout the disclosure to "clear" with regard to the solution used to make the coating, and refers to the coating formed in Example 1 as "colorless". In this specific example, the "white" precipitate that is formed after addition of the silanes and the reaction that follows is filtered off (see column 10, lines 50-60). The yellow residue that results is treated and results in a colorless to bright-yellow phase. The example then heats the resin resulting in a "clear solution" which is then coated onto the aluminum substrate via immersion (col. 11, lines 10-15). This is considered to clearly teach that "white" is not considered "colorless" and one of ordinary skill in the art would expect that the resulting "colorless" film formed from the "clear" solution would be transparent, i.e. clear.

While Wolter may teach that other materials may be added, there are no pigments added in Example 1.

Appellant has not argued that the materials used would not inherently form a clear, i.e. transparent, film and has only argued that the reference teaches a colorless or "white" coating. As argued above, this argument is not convincing since Wolter contrasts "white" and "clear" and the "clear" solution is expected to result in a "clear" film.

Appellant also argues that Wolter fails to teach a metal base circuit substrate of an optical device. It is noted that the claims do not refer to "of an optical device" but instead state "A metal base circuit substrate for an optical device". Since the claim does not positively recite an optical device, the "for" language is considered intended use only and does not impart any structural definition to the claims.

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Wolter teaches that a silicon compound A is a commercially available compound which is a crosslinkable organic silane compound (col 3 L 36-65 & col 4 L 1-15). The silicon compound A is a resin compound that ranges from **colorless** to bright yellow. In Examples 1 and 2, the silicon compound A insulating material is a **colorless layer** (col 11 L 7-9 and L 31-32; col 12 L 15). The examiner takes the position that a colorless or clear layer is a transparent layer and would transmit all (or 100%) of the light.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Cathy Lam/

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